

## A NEW SPECIES OF BITING MIDGE FROM JAPAN

(DIPTERA, CERATOPOGONIDAE)

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During the course of a survey of biting flies initiated in April 1952 by the Far East Medical Research Unit, a number of species of biting midges were encountered in light trap collections at Kyoto, Honshu, Japan. Collections were made in the vicinity of Midoro Pond, on the outskirts of Kyoto, throughout the season from May to November by the junior author and Joe M. McClendon.<sup>3</sup> In addition to the new *Culicoides* herein described, the following species were encountered: *Culicoides arakanae* (Arakawa), *C. erairai* Kono and Takahashi, *C. kibunensis* Tokunaga, *C. oryztoma* Kieffer, *C. sigaensis* Tokunaga, *Forcipomyia metatarsis* Tokunaga, and a species of *Dasyhelea*. Identifications of all the midges collected were made or confirmed by the senior author.

The present paper includes a description of the adult female of the new *Culicoides* and brief notes on its collection.

The illustrations were made by scientific illustrators of the Taxonomic Entomology Section, 406th Medical General Laboratory, at Kyoto. Logistical support for the survey work and the preparation of illustrations was furnished by the U. S. Army Hospital, Kyoto, 8164 Army Unit.

***Culicoides pictimargo*, new species**

A medium-sized dark species with pruinose mesonotum and wings with several marginal white spots.

*Female*.—Body length about 1.8 mm. Wing 1.4 mm. by 0.6 mm. Head dark brown; eyes very narrowly separated by a distance about as wide as the diameter of a facet. Clypeus with three pairs of marginal setae. Antennae, figs. 2-4, brown, but basal short flagellar segments pale on basal half; antennal ratio about 1.5, relative lengths of distal eight segments 9:9:9:19:20:21:21:28, ultimate segment without distinct stylet. Palpal segments, fig. 6, in proportion of 4:12:18:6:6; third segment distinctly swollen, with very large sensory pit of *verbosus* subtype.

Mesonotum, fig. 5, reddish dark brown; scutum with mat-like brown pruinescence; caudo-scutal area with gray pruinescence and a pair of dark spots; scutellum dark. Legs brown, with pale yellow rings before and beyond dark knee-joints; tibiae extensively dark brown on middle part.

Wings, fig. 1, with macrotrichiae long and rather dense, except just above and below  $M_1$ , before cross-vein r-m and above and below stem of medio-cubital fork. Small pale spots distinct along margin as fol-

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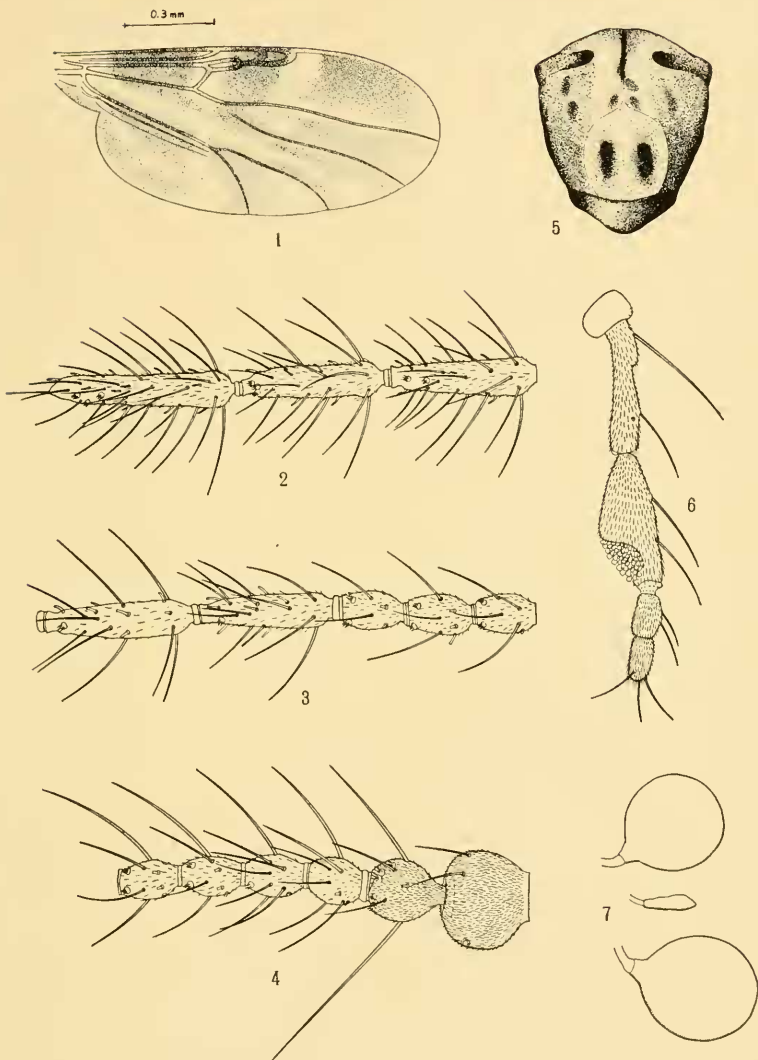


Fig. 1, *Culicoides pictimargo*, female, wing; figs. 2-4, antenna; fig. 5, mesonotum; fig. 6, maxillary palpus; fig. 7, spermathecae.

lows: First spot at r-m narrow and extending just beyond median vein, second spot not covering second anterior radial cell, third spot at extreme tip of cell  $R_5$ , semicircular spot at tip of cell  $M_1$  and  $M_2$ , somewhat elongated semicircular spot at tip of cell  $M_3$ , a small spot under medio-cubital fork, a semicircular spot along anal margin before  $Cu_1$ . In addition to these distinct marginal spots there are several obscure light markings as follows: Small oval spot at base of cell  $M_1$ , linear light areas along both sides of vein  $M_3$ , a faint linear light marking arising from light wing base and extending longitudinally between veins  $M$  and  $Cu_1$ , a small longitudinal spot at basal area of anal cell. Halteres brown.

Abdomen dark brown on dry specimens and pale brown and with dark clouds on lateral membranes on specimens preserved in alcohol; tergal sclerite reduced to small paired and a small median plates; sternal sclerite reduced to small paired plates.

Spermathecae, fig. 7, two, spherical, slightly unequal, each with a very short sclerotized duct; rudimentary spermatheca tubular.

*Male*.—Unknown.

*Types*.—Holotype and 9 ♀ paratypes, Midoro Pond, Kyoto, August 1952. Holotype and 5 paratypes deposited in United States National Museum; 2 paratypes in collection of senior author and 2 paratypes in the collection of the junior author.

This species is very closely related to *C. verbosus* Tokunaga from Formosa, but differs in the following points: Eyes not contiguous, wings longer and with more distinct light spots; spermathecae spherical.

*Biological note*.—Thirty-nine female adults of this species were collected in a light trap from August 9 to September 27, 1952 on the outskirts of the northern section of the city of Kyoto. The greatest number of adults of *C. pictimargo* attracted to light was in the latter part of August. This tendency is also shown in the case of *C. arakanae*, *C. oryztoma*, and *C. crairai*.

The life history and habits of *pictimargo* are unknown.

The dates of collection of *C. pictimargo* by light trap are as follows (all specimens taken in 1952): Aug. 9, 11 ♀; Aug. 16, 4 ♀; Aug. 23, 1 ♀; Aug. 30, 15 ♀; Sept. 13, 5 ♀; Sept. 20, 2 ♀; Sept. 27, 1 ♀.

#### REFERENCES

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